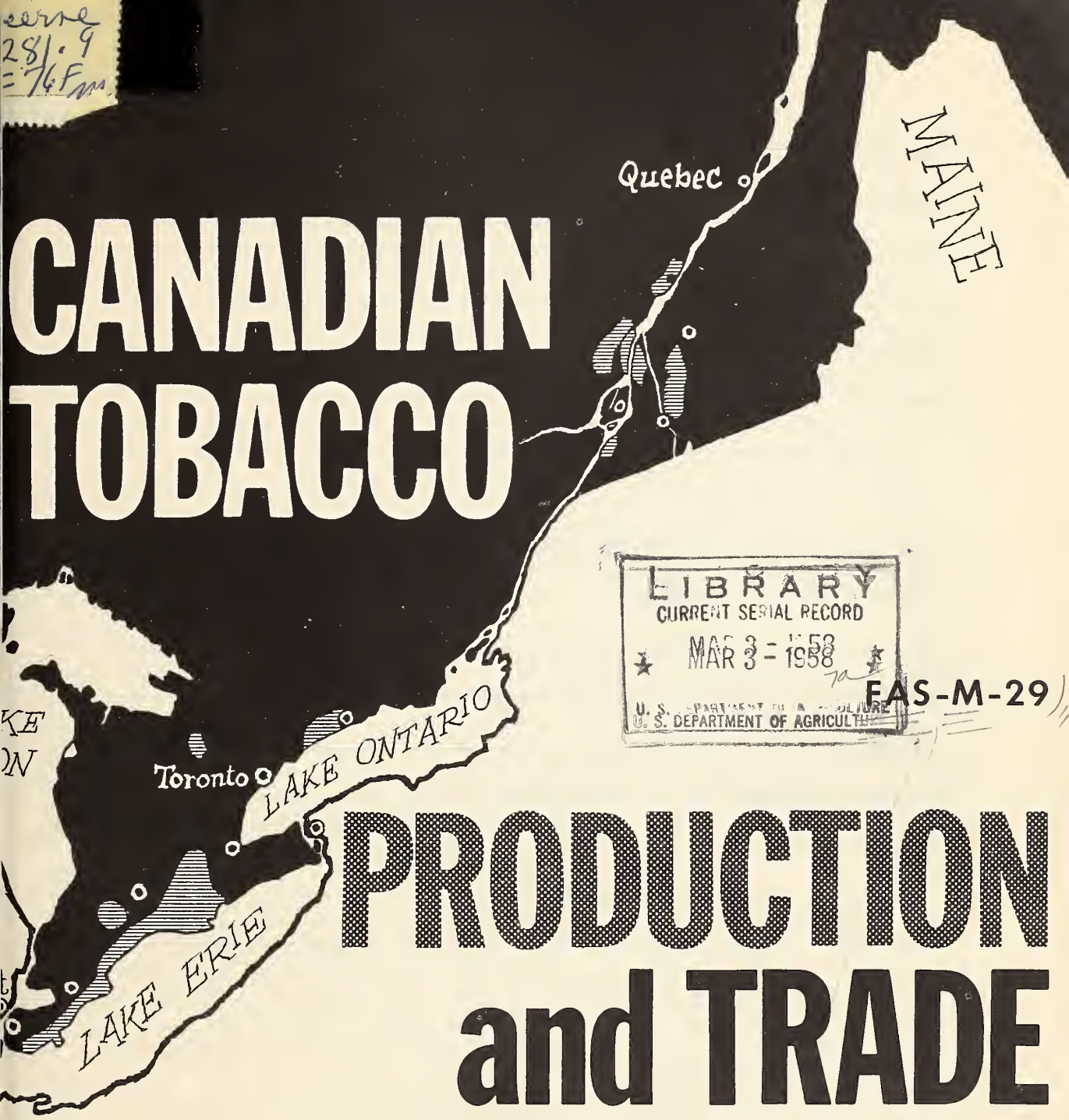

CANADIAN TOBACCO PRODUCTION and TRADE

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Contents

CANADIAN TOBACCO PRODUCTION AND TRADE

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Canada produces tobacco primarily for the domestic market, but it has been exporting increasing quantities since the war. Until recently, Canada bought much of the tobacco it used from the United States, and it still buys some. In fact, U. S. exports to Canada have been increasing in the past 3 years, chiefly because of sales of cigar wrapper, a tobacco that Canada cannot grow.

Canadian production of tobacco has also been rising, but so has consumption. Nevertheless, Canadian tobacco exports are offering U. S. exports increased competition; this trend is likely to continue. Until 1956, Canada's exports had the greatest impact on U. S. exports to the United Kingdom and the British West Indies. However, in the past 2 years, Canadian flue-cured and Burley are furnishing greater competition in continental Europe. Larger shipments have been going to West Germany, the Netherlands, Ireland, Belgium, and Finland.

As for the tobaccos of other exporters, Canadian flue-cured is not competitive pricewise with Indian and Chinese flue-cured or with some of the lower-quality Rhodesian leaf. The keenest competition that Canadian flue-cured finds is with the medium and higher-quality grades of Rhodesian leaf in the United Kingdom.

The proportion of Canada's production going into exports has gone from about 13 percent in 1940-44 to 21 percent in 1950-56. Exports rose from 16.5 million pounds before the war (1935-39) to a high of 48.4 million in 1955 and more than 30 million in both 1956 and 1957.

As for production, output of all types, but primarily flue-cured, will continue its rise, chiefly in response to increasing domestic demand, but also to some extent in order to meet a further expected increase in exports.

In appraising the future of Canadian production and exports, several favorable and unfavorable factors are to be considered.

Favorable

Rising domestic consumption and some expansion in exports will continue to stimulate production.

Production of flue-cured is very efficient. Producers are well informed and use modern methods. Also, it is grown in large-scale operations, which have such important advantages as the capacity to operate on a narrow profit margin per unit. Yields are rising and the use of supplemental irrigation is increasing.

Quality in regard to color and -- to a lesser extent -- body is good.

Import duty has been reduced on Canadian leaf sold in the United Kingdom and British West Indies.

Canadian exporters have important advantages over U. S. exporters -- a 21.6 cents per pound lower import duty in the United Kingdom, a lower duty in the British West Indies, and somewhat lower prices paid for Canadian leaf.

Unfavorable

Because of climate, the flavor and aroma of Canadian flue-cured and Burley are not as desirable as those of U. S. leaf. (Canadian flue-cured is superior in these characteristics to Chinese, Indian, and Rhodesian leaf.)

Canadian dollar holdings abroad are expected to continue to be a problem and

are likely to worsen.

Because of the short growing season, some immature leaf is always harvested in an effort to avoid frost damage.

Expansion in production in certain areas can be attained only by shifting to less-well-adapted soils, and in others at the expense of greater weather hazards, particularly frost and hail.

With further industrialization, wage rates are likely to continue to rise and producers will have greater difficulties in securing seasonal workers for the tobacco farms.

Flue-cured makes up about 90 percent of the total production and Burley 5 to 6 percent, with the balance cigar leaf, Greenriver, fire-cured, and other dark types. Production of flue-cured increased sharply from a prewar (1934-38) average of 43 million pounds to an alltime high of 173 million in 1954. Then, it decreased to 118 million pounds in 1955 but rose again - - to 149 million in 1956. In 1957, flue-cured growers were permitted to plant their full base acreage, and production would have established a new alltime high if unfavorable weather and physiological blight had not damaged the crop. Even with these unfavorable factors, 1957 production is estimated at 154 million pounds.

For the first time in history, Ontario Flue-Cured Growers are selling their crops by auction. The system is a modified "Dutch Clock" auction and is being viewed with interest by people in and outside of Canada.

Burley production increased sharply in 1957 and Canadians plan a further expansion. This can be achieved if prices are high enough to induce farmers to grow more and markets for larger supplies can be found. Of the 9,300 acres allotted in 1957, only about 6,000 acres were planted; less than the allotted acreages have been planted for several years. Burley is grown largely in Essex and Kent Counties (near Detroit), where there is keen competition with other high-value crops for land and labor.

For the cigar and pipe tobacco, production changed little in 1957.

Consumption of cigarettes and cigars in Canada continues to rise, while the demand for smoking tobacco, chewing tobacco, and snuff continues to decline.

Canadian growers can look forward to increased domestic consumption from both rising per capita consumption of tobacco products and increasing population. This may help Canadian growers more than the possible gains in exports.

U. S. tobacco exports to Canada, chiefly cigar wrapper, have increased since 1953. Takings of U. S. cigar binder declined sharply in 1956 and this trend may continue. This recent decrease in imports of binder is reported to be mainly due to the use of homogenized binder. There has been a sharp increase in the use of domestic cigar leaf, mostly cigar filler. The rising consumption of cigars is expected to maintain the demand for U. S. cigar wrapper in the next few years.

Aids to the Industry

The expansion of flue-cured and Burley production in Canada has been encouraged greatly by guaranteed prices and markets for leaf grown by association members, and much of the expansion in exports has largely been possible because of the preferential import duties in the United Kingdom and British West Indies. However, Canadian production of flue-cured is very efficient in terms of labor, land, and capital used.

The associations of growers for flue-cured and Burley in Ontario Province (which accounts for over 90 percent of total Canadian production) have long

had authority to limit grower membership and control the acreages grown by members. Likewise, the marketing boards for Burley and flue-cured in Ontario have had power to establish guaranteed minimum prices and regulate grading and marketing of the crops.

Cooperative societies in Quebec Province exert considerable control over the production and marketing of cigar and pipe tobaccos.

Representatives of the Dominion and Provincial Departments of Agriculture assist these tobacco associations, boards, and cooperatives with various problems of production, prices, and trade. These associations, boards, and cooperatives are organized under Provincial and Dominion Farm Products Marketing Acts, and most of them operate as official or quasi-governmental bodies of the Dominion and Provincial Governments.

Table 1.--Canadian production of unmanufactured tobacco, by kind, averages 1934-1948, annual 1949-57
(Farm sales weight)

Year	Flue-cured	Burley	Dark 1/	Cigar	Other	Total
Average:	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds
1934-38...	43.0	9.3	2.5	4.5	3.5	62.8
1939-43...	65.5	10.8	2.2	4.1	2.3	84.9
1944-48...	94.1	12.0	1.8	4.8	1.8	114.5
Annual:						
1949.....	116.7	15.5	2.1	3.7	1.8	139.8
1950.....	108.2	5.7	.8	4.5	1.1	120.3
1951.....	144.1	3.6	1.3	3.7	1.1	153.8
1952.....	132.0	2.3	1.4	2.7	1.3	139.7
1953.....	132.4	1.8	.2	3.4	1.1	138.9
1954.....	173.1	4.4	1.1	4.8	1.1	184.5
1955.....	118.2	7.0	1.8	5.8	2.0	134.8
1956 2/...	149.0	7.0	.7	3.8	1.7	162.2
1957 3/...	154.0	7.5	.4	4.0	1.0	166.9

1/ Greenriver and dark fire-cured. 2/ Revised. 3/ Preliminary estimates.

Table 2.--Canadian acreage of tobacco, by kind, averages 1934-48, annual 1949-57

Year	Flue-cured	Burley	Dark 1/	Cigar	Other	Total
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Average:						
1934-38...	41.7	7.7	2.3	4.1	3.3	59.1
1939-43...	59.6	8.5	1.6	3.8	2.6	76.1
1944-48...	87.4	10.7	1.6	4.1	1.8	105.6
Annual:						
1949.....	90.7	11.4	1.5	3.6	1.9	109.1
1950.....	92.1	4.7	.6	3.2	1.2	101.8
1951.....	111.3	2.5	1.0	3.0	1.2	119.0
1952.....	86.0	1.4	.9	2.2	1.1	91.6
1953.....	95.8	1.1	.1	3.0	1.1	101.1
1954.....	122.8	3.1	.7	5.1	2.1	133.8
1955.....	98.3	4.0	1.0	4.6	2.0	109.9
1956 2/...	117.0	4.5	.5	3.8	1.9	127.7
1957 3/...	125.5	6.0	.3	3.1	.8	135.7

1/ Greenriver and dark fire-cured. 2/ Revised. 3/ Preliminary estimate.

Flue-Cured

The Canadian output of flue-cured has risen rapidly in recent years. Production is a large-scale type of operation, with an average of over 30 acres of tobacco grown per tobacco farm. Presently, flue-cured tobacco is practically the only source of income on most of the producing farms. This large-scale production per farm has been maintained as a result of acreage congrols by grower association members and reasonably adequate supplies of seasonal harvest labor. Absence of these factors or a decrease in them would cut the average acreage grown per farm. Production is very efficient. The farm operators are well informed and employ modern methods and practices.

Approximately 125,500 acres were devoted to flue-cured production in 1957 (120,000 acres in Ontario and 5,000 acres in Quebec). Early-season estimates which put the total flue-cured production as high as 185 million pounds, have been reduced sharply. As the crop progressed it was adversely affected by a number of developments. There was too much rain early in the season, hail damage was severe, an unidentified physiological leaf spot affected a large area, and considerable loss resulted from frost.1/ Much of the crop was immature at the normal harvest date and some was primed before it was ripe. As a result of these adverse factors, October estimates indicated a 1957 flue-cured crop at about 154 million pounds.

The upward trends in the production and use of flue-cured are expected to continue as population and incomes rise and per capita consumption of cigarettes increases.

1/ Hail severely damaged about 13 million pounds of leaf in a large area 4 miles wide and 15 miles long just East of Tillsonburg, Ontario, and destroyed 150 acres near Bowmanville, Ontario. It also damaged a small area near L'Assomption in Quebec Province.

Producing Areas.--Over 90 percent of Canadian flue-cured is produced in southern Ontario. Originally, most of the flue-cured was grown in Essex and Kent Counties near the city of Windsor (across the river from Detroit, Michigan). The main producing area has shifted about 100 miles east, with the village of Delhi now almost in the center. Production is concentrated largely in Norfolk, Elgin, Oxford, and Brant Counties; Norfolk is by far the most important. This area is along the north shore of Lake Erie and approximately 90 miles west of Niagara Falls.

Some flue-cured is grown in Middlesex County, chiefly in Caradoc Township, which is about 65 miles west of the main growing area. Recently, production has increased sharply along the western border of this area. In the last 10 years, flue-cured tobacco has been grown in the vicinity of Port Hope in Durham and Northumberland Counties, which are along Lake Ontario and about 70 miles east of Toronto. Ontario Department of Agriculture representatives indicated that 71 growers planted 3,500 acres of tobacco in this area, and produced about 5 million pounds in 1957. A local agricultural specialist estimates that production could be increased sharply in the Port Hope area. There is a strip of soil about 20 miles wide in Durham and part of Northumberland Counties that is suitable for flue-cured production. Another new flue-cured growing area is in the Camp Borden-Alliston region of South Simcoe County (about 75 miles northwest of Toronto). This region has been producing small quantities of tobacco for several years. Since 1949, some flue-cured has been grown in the Port Elgin area of Bruce County. This area is about 120 miles northwest of Toronto and about 160 miles northeast of Detroit, on the shore of Lake Huron. It is reported that there is about 2,000 acres of adapted soil in this area.

Southern Ontario has additional areas with soil suitable for flue-cured production, but there is considerable risk of damage by frost and hail in some of them. The acreage of flue-cured on the present producing farms is now about as large as can be grown and still maintain present crop rotations. Any future expansions can probably be attained only by planting tobacco on new farms within the present producing areas or by extending the boundaries of the present producing areas or both.

In 1957, approximately 4 million pounds of flue-cured is estimated for the 5,500 acres grown in Quebec Province. There was about a 40-percent loss due to frost. In 1956, flue-cured in Quebec Province was distributed approximately as follows: Joliette District, including Counties of Joliette, Bertheir, and L'Assomption, (5,500 acres); the Three Rivers District, including Counties of St. Maurice and Champlain, (700 acres); Contrecoeur District, including Counties of Vercheres and Richelieu, (250 acres); and the Soulanges District (in Soulanges County), an estimated 50 acres. Output has been increasing steadily, and a specialist of the Quebec Provincial Government has stated that, if markets could be found for additional output, production could be raised to 20 million pounds or more in the next 10 years. The area of adapted soils and labor supply are sufficient for significant expansion, but there are considerable weather hazards, such as hail and frost, which damage limited amounts of the crop almost every year.

A small amount of flue-cured is grown in the Fraser Valley of the Province of British Columbia. Several years ago, more than one-half million pounds were produced in this area, but output has been declining sharply, as prices have been low and the area is far from existing markets.

Quality and Varieties.--Canadian flue-cured is a bright leaf with a higher proportion of yellowish-lemon color and less brown color than U. S. leaf. The

plant is topped at an earlier stage of growth than is U. S. flue-cured to improve body and shorten the growing season required.

Canadian leaf is of good quality but has distinct characteristics of its own, which are substantially different from U. S. leaf in regard to aroma, flavor, and thickness of leaf. It has less oil than does U. S. flue-cured. Early in the harvest season some pickings of immature leaf are always made. The distinctive taste of such tobacco would undoubtedly be noticed by U. S. consumers, but apparently no serious problems have arisen in this connection with Canadian or British smokers. In dry years the moisture can be fairly adequately controlled, as over half of the farms are equipped with ponds and supplemental irrigation facilities. This tends to lessen the variation in quality over a period of years.

Most of the flue-cured is the Delcrest variety, with Hicks and Virginia Gold accounting for the remainder. Delcrest generally has somewhat more body than the other varieties.

Marketing.--Until 1957 all flue-cured was sold through direct negotiations between the farmer and buyer. Auctions (Dutch Clock System) were initiated by the Ontario Flue-Cured Growers Marketing Board in 1957. All flue-cured is sold in bales. Leaf for export is tied in hands, while that used domestically is left untied.

Prices.--The average price received by farmers has increased about 10 percent in the last 8 years -- from 42.3 Canadian cents per pound in 1949 to 46.4 cents in 1956 (excluding an additional 2 cents per pound paid farmers for grading and tying). The minimum average price accepted for the 1957 crop is 49 cents per pound.

The average export price of all foreign sales of Canadian flue-cured rose 8.8 Canadian cents per pound from 1950 to 1956 (49.8 Canadian cents per pound in 1950 and 58.6 cents in 1956) and further to 60.0 cents in the first 10 months of 1957. During the 1950-56 period the average export price of U. S. flue-cured rose 13 U. S. cents per pound (53.6 cents in 1950 and 66.6 cents in 1956). The import cost (exclusive of import duties) of Canadian unstemmed flue-cured taken by the United Kingdom has risen gradually from 51.3 cents per pound in 1950 to 66.0 cents in 1956. The average cost (exclusive of import duty) of U. S. unstemmed flue-cured to the U. K. market has ranged from 64.5 U. S. cents per pound in 1950 to 73.5 U. S. cents per pound in 1956.

It is very difficult to evaluate prices received for leaf from these countries, as quality imported from each is not comparable. A higher proportion of U. K. imports from Canada is lugs and primings in contrast to a higher proportion of leaf and lugs from the United States and Rhodesia.

There is keen price competition in the United Kingdom among Canadian, U. S., and Indian flue-cured, but the differences in trade arrangements and import duties do not permit a true reflection of price in relation to quality of leaf from the various countries. The spread between the prices of U. S. and Canadian has narrowed slightly in the past few years from about 10 to 13 cents in 1950-54 to 7.8 cents in 1955 and 6.5 cents in 1956. On the basis of comparable qualities the spread between the Canadian and U. S. export prices probably should be greater, but the lower import duty on Canadian tobaccos in the United Kingdom is conducive to relatively higher Canadian prices. The average import cost (exclusive of import duty) of Rhodesian unstemmed flue-cured taken by the United Kingdom in 1950-56 was approximately equivalent to 70.0 U. S. cents per pound compared with 60.7 U. S. cents for Canadian leaf, and for 3 years during this same 7-year period (1950-56) the average cost per pound of Rhodesian

unstripped flue-cured purchased by the United Kingdom was above the average cost of U. S. unstripped flue-cured shipped to the same market.

Table 3.--Comparative Canadian and U. S. farm prices and export prices for all flue-cured, 1950-57

Year	Average price received per pound by farmers		Average export price per pound for all exports	
	Canada 1/	United States	Canada	United States
	Canadian cents	U. S. cents	Canadian cents	U. S. cents
1950...	44.9	54.7	49.8	53.6
1951...	44.6	52.4	56.8	64.5
1952...	41.8	50.3	58.3	63.1
1953...	43.9	52.8	55.8	66.8
1954...	43.4	52.7	57.3	68.9
1955...	46.1	52.7	57.3	67.3
1956...	46.4	51.6	58.6	66.6
1957...	2/	55.5	3/ 60.0	3/ 72.4

1/ Does not include 2 Canadian cents per pound paid to farmers for grading and tying. All leaf for export is graded and tied while that sold for domestic use is not tied.
2/ Not available.
3/ Ten months, January-October.

Table 4.--Average export prices of flue-cured tobacco exported by selected countries, 1950-57 1/

Year	United States	Canada	Fed. of Rhodesias and Nyasaland	India
	U. S. cents per pound	Canadian cents per pound	U. S. cents per pound	U. S. cents per pound
1950..	54	50	2/ 54	3/
1951..	64	57	2/ 56	3/
1952..	63	58	60	34
1953..	67	56	61	34
1954..	69	57	58	30
1955..	67	57	61	29
1956..	67	59	51	30
1957..	4/ 72	4/ 60	4/ 62	5/ 43

1/ Declared weight basis. 2/ Southern Rhodesia. 3/ Not available.
4/ First 10 months, January-October. 5/ Five months, January-May.

Table 5.--Average import price (at United Kingdom ports) of unstripped flue-cured leaf imported by the United Kingdom (U. S. cents per pound exclusive of import duty), 1939 and 1950-57

Year	Southern Rhodesia	Nyasaland	United States	Canada	India 1/
	U. S. cents per pound	U. S. cents per pound	U. S. cents per pound	U. S. cents per pound	U. S. cents per pound
1939	16.2	14.8	17.1	20.4	11.1
1950	61.1	49.6	64.5	51.3	38.0
1951	66.9	64.4	68.4	58.9	38.3
1952	72.7	49.0	70.2	61.2	39.1
1953	73.0	57.3	72.1	61.4	41.1
1954	72.3	58.2	73.4	62.1	42.1
1955	2/ 75.5	3/	72.2	64.0	47.4
1956	4/ 69.3	3/	73.5	66.0	39.3
1957 5/	4/ 68.9	3/	77.6	64.2	3/

1/ Unstripped leaf accounts for little over 10 percent of imports from India. 2/ Mostly dark fired leaf with some sun/air-cured leaf. 3/ Not available. 4/ Federation of Rhodesia and Nyasaland. 5/ Export prices 10 months, January-October.

Much of the Rhodesian flue-cured has a good yellow-lemon color (desired especially by U. K. manufacturers), but in other aspects of quality (particularly flavor and aroma) Canadian and U. S. flue-cured are superior to that from Rhodesia. The high prices for Rhodesian leaf in relation to Canadian and U. S. leaf in the U. K. market can only be explained by the relative availability of the foreign currencies involved and the U. K. policies of reducing reliance on dollar tobaccos and of encouraging tobacco production in British territories, especially those which are relatively underdeveloped.

Canada is in the British Commonwealth sterling pool, but Canadian dollar balances abroad are relatively limited. Canadian tobacco exports to a number of foreign countries face, to some extent, the same type of dollar shortage problems that plague U. S. tobacco exports.

Disappearance.--Canadian domestic use of flue-cured has risen at the rapid rate of about 4 million pounds (redried leaf) per year in the past 8 years (1949-56). Exports continue their upward trend, varying significantly from year to year because of the supply available for the purpose. For greater detail, see separate sections below on domestic consumption and exports.

Burley

Burley production reached peak levels in the late 1920's and early 1930's and declined sharply thereafter to a low point in 1953. Since then, production has been increasing steadily, and, with a sharp rise in plantings, reached 7.5 million pounds in 1957, the highest since 1949. The Ontario Burley Marketing Board in early 1957 established a target of 10 million pounds for the crop, but because of underplantings of allotments by growers and unfavorable weather, this level was not reached. In many cases, Burley is competing for land and

labor with high value per acre fruit and vegetable crops.

Part of the lower acreages in recent years have been offset by rising yields. Yields have increased greatly from 1,128 pounds per acre in 1944-48 to an average of 1,611 pounds in the 1954-56 period.

Most Burley production is on a small scale. In 1956, an average of 2.2 acres of Burley was grown per farm, with fruits and vegetables important sources of income in certain areas and extensive labor crops (usually highly mechanized), such as small grains, corn, soybeans, sugar beets and hay, accounting for a high proportion of farm income in others.

Table 6.--Acres allotted and area planted by members of the Burley Growers Association of Ontario, 1952-57

Year	Allotted	Planted
	Acres	Acres
1952....	2,415	1,406
1953....	1,933	1,098
1954....	4,832	3,122
1955....	5,314	4,300
1956....	6,376	4,513
1957....	9,300	1/ 6,000

1/ Harvested acres.

Producing Areas.--Burley is produced in the Old Belt, confined almost entirely to Essex and Kent Counties (near Windsor). It competes primarily with high value per acre crops in the Harrow and Blenheim areas along Lake Erie, and with less-intensive and highly mechanized crops in the area around Chatham. There is keen competition for labor and, to a lesser extent, land and capital.

Production of light Burley is being increased, but it is difficult to predict the future of this kind of leaf. The main emphasis on breeding work is to produce adapted cigarette-type leaf and decrease the length of the growing period required. The experiment station at Harrow is recommending that greenhouses be built for producing seedlings, and some have been constructed.

Canadian tobacco specialists expect production of Burley to increase, and this can be achieved. However, in addition to the keen competition of other crops, there is rapidly increasing competition for labor by expanding industrialization in nearby cities that makes labor harder to get and more expensive. Canadian growers have been receiving a higher price per pound for flue-cured leaf than they have for Burley, which in itself is a deterrent to the expansion of Burley; however, because of the difference in peak-harvest labor requirements, Burley is much more appropriate than flue-cured for production in combination with fruit and vegetables grown in the Harrow-Leamington area.

Varieties and Quality.--Burley in Canada has been used chiefly in pipe and chewing tobacco. Some cigarette-type leaf has been produced for export in recent years. Canadian Burley is of a good bright color, but it has less flavor and aroma than U. S. leaf. Farmers have been reluctant to shift to the production of cigarette-type Burley, partly because farmers have long been accustomed to low topping in order to produce pipe Burley. One reason why the low topping practice continues is that it speeds maturity, which is important in avoiding frost damage. Greater use of greenhouses for production of plants is likely to partly overcome this.

The major portion of Burley grown in Canada in 1957 was the Burley I variety. This variety produces cigarette-quality leaf when appropriate cultural practices are used.

Marketing.--With the exception of the 5 years, 1935-39, Ontario Burley production and marketing have always been controlled. The Burley Marketing Association of Ontario (composed of growers and buyers) allots the acreages to

be grown and carries out a program of guaranteed minimum prices.

Burley is purchased directly from the farmers by buyers who visit the farms. There is no auction system.

Prices Received by Farmers.--Burley producers have received an annual average price ranging from 29.6 to 31.4 Canadian cents per pound in the 1949-56 period. The difference in annual average prices received has varied less than 2 cents per pound during this 8-year period. This is only about two-thirds of the average price received by Canadian growers of flue-cured during these years. The higher flue-cured prices are conducive to a shift from Burley to flue-cured wherever soils are adaptable. However, this is partly offset by several factors with one of more important obstacles to such a shift resulting from the fact that labor requirements during the harvest period are much higher for flue-cured than for Burley.

Prices of Canadian Burley are expected to rise, partly in response to the recent increases in Burley prices in the United States and elsewhere.

Disappearance.--Domestic consumption of Burley has been declining for many years. Only 4.5 million pounds (redried weight) was used in 1956 compared to 9.5 million in 1943.

Exports of Canadian Burley averaged about 1.1 million pounds per year during the 1940's, dropped to a low point of about 0.7 million in 1954, and then increased to 1.1 million pounds in 1956.

For more detail see separate sections on domestic consumption and exports.

Table 7.--Prices per pound received by Canadian, United States, and Nyasaland farmers for Burley, 1950-57

Year	Canada	United States	Nyasaland
	Canadian cents	U. S. cents	U. S. cents
1950	30.0	49.0	1/
1951	30.2	51.2	26.6
1952	29.6	50.3	1/
1953	31.3	52.5	26.7
1954	30.3	49.8	1/
1955	30.1	58.6	31.5
1956	31.4	63.5	26.7
1957	1/	1/	40.9

1/ Not available.

Table 8.--Comparative export prices per pound for Canadian, United States, and Nyasaland Burley, 1950-57

Year	Canada	United States	Nyasaland
	Canadian cents	U. S. cents	U. S. cents
1950	1/	40.5	1/
1951	39.7	46.9	1/
1952	44.9	53.9	1/
1953	44.2	52.2	1/
1954	44.0	51.4	1/
1955	43.0	55.9	42.7
1956	41.6	58.7	39.7
1957 2/	43.7	76.2	3/ 59.0

1/ Not available. 2/ First 10 months, January-October. 3/ About 58 percent were in the form of strips at an average price of 66 cents per pound.

Cigar Tobaccos

Production.--Most of Canada's production of cigar tobacco, estimated at 4 million pounds in 1957, is binder and filler. Demand for natural binders has decreased and farmers are concentrating on mild cigar filler tobaccos.

All of the commercial cigar leaf production is in Quebec Province. It is produced in the St. Jacques District (including Counties of Montcalm, L'Assomption, Joliette, and Berthier), in which 2,100 acres were harvested in 1957 and in the St. Cesaire or Yamaska River Valley District (including Counties of Rouville, Bagot, and Iberville), where 1,000 acres were harvested in 1957.

Marketing.--Two cooperatives - - Societe Cooperative Agricole de Tabac du District de Joliette and St. Jacques and La Societe Cooperative agricole de la vallee D'Yamaska St. Cesaire - - handle approximately 85 percent of the cigar leaf; the remainder is sold directly to other buyers.

Grower-members own the cooperatives with which they have contracts for the production and purchase of cigar leaf. The farmer grades the tobacco into three grades (top, middle, and bottom leaves), and bales the loose (untied) leaves, in which form it is sold to the cooperatives or other buyers. Cooperatives regrade and process the leaf they purchase and then either make it into cigars or sell it to other manufacturers.

Each grower-member of the cooperatives receives an allotted acreage on the basis of available labor, curing space, and previous acreage grown. Each spring, the growers' associations negotiate with buyer representatives to determine the prices to be paid to farmers. The main factors considered in establishing the price are overall demand for cigars, production and processing costs, and quality of leaf.

The main cigar varieties produced are Havana 211, Connecticut, and Comstock.

"Pipe" Tobacco

Quebec Province has always produced some tobacco that is reported separately as "pipe" leaf. The "pipe" leaf producing district includes the Counties of Montcalm, L'Assomption, Joliette, and Berthier. Approximately 800 acres

produced slightly less than a million pounds of leaf in 1957, compared to about 1.7 million pounds in 1956. There is a long-term trend of declining production, although about 1.1 million pounds have been produced annually since 1949.

A wide variety of types is included in this category - - dark air-cured varieties, types which resemble red Burley, and several miscellaneous types which appear to be largely crosses between cigar or other dark air-cured varieties. Some varieties are highly aromatic and some resemble the garden flowering types. The more aromatic pipe varieties (sometimes also used as cigar filler) include Rose Quesnel, Small Havana, Belgian 3007, and Perfumed Italian. There are other pipe tobacco varieties, such as Blue Pryor, Rouge, and General Grant.

Greenriver and Fire-Cured

Production of Greenriver and fire-cured in 1957 is estimated at 350,000 pounds from 300 acres (compared with 699,000 pounds from 460 acres in 1956), the lowest since production was started. Production, entirely in Ontario Province, has never been large, and demand for these types has been decreasing with the decline in use of snuff and chewing tobacco.

Domestic Consumption

Products

Domestic consumption of cigarettes and cigars continues to rise, while the use of smoking tobacco, chewing tobacco, and snuff are declining. Cigarette consumption has about doubled since the end of World War II, rising from 14.3 billion pieces in 1945 to 30.2 billion in 1957. Since 1951, the sales of cigarettes have increased at a rate of over 10 percent per year. Cigar consumption continues to rise, reaching an alltime high in 1957, with an increasing shift to smaller cigars and cigarillos. Since 1950, consumption has increased sharply from about 200 million pieces to 293 million in 1957. Sales of smoking, chewing, and twist tobaccos have decreased sharply from a high of 31 million pounds in 1952 to 20.4 million in 1957. Snuff continues to decline, with sales in 1957 about one-sixth less than in 1950.

Table 9.--Tax-paid withdrawals of Canadian tobacco products for consumption, averages 1941-50, annual 1951-57

Year	Cigarettes	Cigars	Cut 1/	Plug 2/	Snuff
	Million pieces	Million pieces	1,000 pounds	1,000 pounds	1,000 pounds
Average:					
1941-45...	11,202	199	24,392	3,294	924
1946-50...	15,974	211	25,497	2,555	964
Annual:					
1951.....	15,667	169	27,297	2,011	869
1952.....	17,848	200	30,962	1,809	866
1953.....	21,001	235	26,142	1,751	839
1954.....	22,113	244	24,459	1,541	846
1955.....	24,576	252	23,640	1,539	821
1956.....	26,997	255	21,205	1,241	826
1957 3/...	30,150	293	20,419	1,121	799

1/ Includes smoking and chewing. 2/ Includes smoking, chewing, and twist.
3/ Preliminary.
Source: Quarterly Stocks of Unmanufactured Tobacco, Dominion Bureau of Statistics.

Table 10.--Canadian redried leaf tobacco taken for manufacture, by type, 1949-56

Year	Flue-cured	Burley	Dark air-fire	Cigar	Pipe	Other	Total
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1949..	69,916	6,426	1,302	4,516	679	470	83,309
1950..	70,515	6,032	1,260	4,598	786	549	83,740
1951..	71,036	5,718	1,436	4,630	647	567	84,034
1952..	81,925	6,153	1,038	5,189	662	599	95,566
1953..	87,527	5,299	1,161	6,072	568	618	101,245
1954..	89,193	4,972	1,160	6,216	573	598	102,712
1955..	93,792	5,247	985	6,533	434	646	107,637
1956..	97,097	4,479	1,110	6,677	369	644	110,376

Source: Quarterly Stocks of Unmanufactured Tobacco, Dominion Bureau of Statistics.

Leaf

In the past few years the use of leaf for domestic manufacturing has risen at a rapid rate. Total use rose from 83.7 million pounds of redried leaf in 1950 to a high of 110.4 million pounds in 1956 and is estimated at 118 million pounds for 1957. With rising population and per capita incomes, this trend is expected to continue.

Flue-Cured.--Nearly all of the increase in leaf consumption has been in flue-cured, needed to meet the rapidly rising demand for cigarettes. The use of redried flue-cured tobacco rose an average of almost 4 million pounds per year

during the 1949-56 period. This upward trend is expected to continue but at a somewhat slower rate.

Burley.--Domestic use of Burley leaf continues to decline, reaching a low of 4.5 million pounds in 1956 compared with 9.5 million in 1943. This has resulted from decreased use of Burley in smoking and chewing tobacco. Stocks of Burley dropped from the very high level of about 21 million pounds in 1950 to 5.5 million in 1955 because of reduced production in those years. It is possible that more light Burley will be used in cigarettes consumed domestically, but tobacco specialists in the Dominion Department of Agriculture report that the American-blend-type cigarettes are not popular in Canada. However, prior to the reduction in taxes on Canadian cigarettes in 1952 and 1953, there was a large volume of U. S. cigarettes consumed in Canada. Also, American tourists account for a fairly large demand for American-blend-type cigarettes. In the past, the major Canadian manufacturers have not pushed the sales of American-type blended cigarettes. It is possible with new manufacturers entering Canada that "blended" cigarettes may increase, thus favorably affecting domestic use of Burley.

Cigar.--Use of cigar leaf has risen sharply in the past few years; it increased 48 percent from 1949 to 1956.

Other Darks.--The use of pipe leaf, Greenriver, and fire-cured continues to decrease with the declining demand for smoking tobacco, chewing tobacco, and snuff.

Exports of Unmanufactured Tobacco

Canada's exports have risen sharply since prewar and reached a record high of 48.4 million pounds in 1955. The small crop of 1955 reduced exports in 1956 to approximately 30 million pounds, but they rose again in 1957 to the third highest on record, being exceeded only by those of 1952 and 1955.

Flue-Cured.--Flue-cured exports have made up approximately 94 percent of all exports of unmanufactured tobacco in the past 5 years. In the January-August period of 1957 exports were more than 10 million pounds above shipments in the similar period of 1956.

Approximately three-fourths of the flue-cured exports go to the United Kingdom, and much of the balance goes to British Commonwealth areas. The United Kingdom has always taken most of the exports, but Australia, Netherlands, British West Indies and West Germany are also important importers. Approximately 24.8 million pounds was taken by the United Kingdom in the first 9 months of 1957. Exports to West Germany in the January-September period of 1957 were 1.4 million pounds compared with a total of 1.4 million for the year 1956. Shipments also increased to Belgium and Netherlands.

The 1957 crop was not as large as anticipated earlier and stocks are low, but exports in calendar year 1958 are likely to be about the same as those in 1957.

Burley.--The United Kingdom also takes most of Canada's Burley, but other European countries bought more in 1957 than in earlier years. Canada is likely to continue strong efforts to expand exports, particularly outside the United Kingdom. Canadian leaf does not have the flavor of U. S. Burley, but exports can be expanded if Canadian prices remain well below those of U. S. Burley.

Exports of Other Types.--Canada's exports of all types except flue-cured and Burley are of minor importance. Small quantities of dark air-cured leaf, fire-cured leaf, and cigar are sold mainly to the United Kingdom, British West Indies, and Belgium.

Table 11.--Canadian exports of unmanufactured tobaccos by kind and country of destination, averages 1940-54, annual 1955-57

Kind and country of destination	Average 1940-44 1/	Average 1945-49 1/	Average 1950-54	1955	1956	1957 2/
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Flue-cured:						
United Kingdom	6,384	12,557	22,958	37,776	20,047	24,817
British Guiana	123	183	199	260	351	189
Barbados	124	227	258	225	270	198
Jamaica	623	940	1,038	1,321	1,510	792
Trinidad and Tobago	787	910	1,138	1,245	1,400	850
Leeward & Windward Is	44	97	69	14	12	-
Australia	298	-	1,787	3,000	1,751	1,599
Belgium & Luxembourg	-	10	413	268	174	216
Netherlands	-	3	489	502	1,230	1,218
Portugal	80	40	75	-	93	237
West Germany	-	-	3/ 98	826	1,461	1,417
Ireland	-	-	4/	89	115	80
Other countries	5/ 134	38	160	9	142	13
Total	8,597	15,005	28,682	45,535	28,556	31,626
Burley:						
United Kingdom	1,254	1,053	732	948	1,115	728
Netherlands	-	-	44	-	9	2
West Germany	4/	4/	4/	4/	4/	224
Finland	4/	4/	4/	4/	4/	38
Hong Kong	4/	4/	4/	4/	4/	36
Other countries	6/ 82	175	24	-	9	23
Total	1,336	1,228	800	948	1,133	1,051
Dark Air and Fire-cured:						
United Kingdom	459	250	126	77	141	6
Other countries	57	6	20	2	10	1
Total	516	256	146	79	151	7
Other unmanufactured:						
United Kingdom	26	39	37	5	8	32
Leeward & Windward Is	111	70	65	66	63	49
Other countries	7/ 96	5	274	1	96	8/ 47
Total	233	114	376	72	167	128
Stems and trimmings:						
United States	286	250	9/ 381	1,742	144	22
Other countries	32	34	637	4	67	32
Total	318	284	1,018	1,746	211	54
Grand Total	11,000	16,887	31,022	48,380	30,213	32,866

1/ Does not include shipments to Newfoundland, which became a part of Canada on March 31, 1949. 2/ January-August 1957. 3/ 1954 only - 492,000 pounds. 4/ If any, included in other. 5/ 1940 only - 667,000 pounds to China. 6/ Includes 399,000 pounds exported to Portugal in 1943. 7/ Forty percent to British Guiana. 8/ Includes 10,000 pounds cigar leaf to Australia and 37,000 pounds to Belgium. 9/ Includes unusually large shipment of 1,828,000 pounds in 1950.

Exports of dark air and fire-cured tobacco dropped from 131,000 pounds shipped the first half of 1956, to 7,000 pounds in the comparable period of 1957.

Cigar leaf exports remain small, but Belgium-Luxembourg increased their purchases in the first half of 1957.

Export Outlook for 1958

It appears that total exports in 1958 are likely to be about the same as in 1957. About 127 million pounds (farm sales weight) of leaf from the 1957 crop probably will be purchased to meet domestic manufacturing requirements when the aged leaf is ready for use. On the basis of such domestic requirements and a 1957 crop of 167 million pounds (farm sales weight), about 30 million to 35 million pounds (redried weight) would be available for export without reducing stocks of aged leaf, which currently appears to be no higher than is desirable.

Imports of Unmanufactured Tobacco

Canada has imported about 1.5 million pounds of leaf annually for the last 5 years. In 1956 imports totaled 1.7 million pounds, almost half of which came from the United States. Cuba is the next largest supplier, furnishing about 400,000 pounds annually and Turkey is third with 250,000 to 284,000 pounds per year. The imports are mainly cigar tobaccos, but the imports from Turkey and limited quantities from the United States and other areas are used in cigarettes.

Table 12.--Exports of U. S. unmanufactured tobacco to Canada, by kind, averages 1935-49, annual 1954-57 (Declared weight)

Kind	1935-39	1940-44	1945-49	1954	1955	1956	1957 1/
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Flue-cured	4,331	1,160	313	31	102	104	82
Burley	453	272	186	-	-	2	-
Ky.-Tenn. fire-cured	151	102	72	37	28	49	17
Virginia fire-cured	143	27	12	-	-	-	4
One sucker	30	44	36	-	18	-	-
Cigar leaf:							
Wrapper				400	343	418	481
Binder:							
Conn. Valley broad-leaf				59	61	40	21
Conn. Valley Havana seed				1	6	3	4
Wisc. and others				56	50	34	2/
Filler				-	14	4	3
Total cigar leaf	3/ 73	3/ 92	3/ 299	516	474	499	509
Perique	26	6	9	3	10	2	3
Other	8	4/ 12	13	93	129	118	130
Total	5,215	1,715	940	680	761	774	745

1/ January-September. 2/ Less than 500 pounds. 3/ Total cigar leaf as the classification by types is not available. 4/ Maryland.

Small quantities are purchased from Syria, Greece, Indonesia, Puerto Rico, and the Federation of Rhodesia and Nyasaland. The latter did not ship any to Canada in 1955 or 1956.

Not long ago, Canada imported relatively large quantities of U. S. leaf. As late as 1935-39 it took an average of 5.2 million pounds annually, mostly flue-cured and Burley. But shipments have been much smaller in recent years, since Canada expanded production of flue-cured.

The development of "homogenized," or manufactured, binder has hurt the sale of U. S. cigar binder to some extent.

Imports of Manufactured Tobacco Products

Products

Canada imports relatively large quantities of cigarettes and cut tobacco. Most of it comes from the United States; the United Kingdom supplies the bulk of the remainder.

The Netherlands, the United States, and Cuba supply most of the cigar imports. Nearly all of the imported snuff in recent years is from the United Kingdom.

Table 13.--Canadian imports of manufactured tobacco products, averages 1935-49, annual 1950-56

Year	Cigarettes	Cigars	Snuff	Cut tobacco	Other	Total
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1935-39	9.5	6.0	4.2	126.5	30.5	176.7
1940-44	3.3	3.4	2.2	71.1	4.2	84.2
1945-49	87.7	7.3	1.4	178.5	1.2	276.1
1950	500.8	8.0	2.9	323.1	33.0	867.8
1951	514.1	9.7	5.2	321.0	25.3	875.3
1952	867.7	17.1	2.3	310.4	35.9	1,233.4
1953	1,116.1	71.0	1.8	317.7	37.0	1,543.6
1954	943.4	79.4	1.8	301.6	30.9	1,357.1
1955	823.0	74.4	2.3	345.6	29.3	1,274.6
1956	726.6	88.6	3.2	336.0	21.2	1,175.6

Source: Dominion trade statistics.

Exports of Manufactured Tobacco Products

Canada's exports of cigarettes are fairly large, but its shipments of other products are small. West Germany is the largest foreign market for Canadian cigarettes, followed by the United Kingdom, the United States, France, the Netherlands, and Burmuda.

Table 14.--Canadian exports of manufactured tobacco products, 1950-56

Year	Cigarettes	Cigars	Other
	1,000 pieces	1,000 pounds	1,000 pounds
1950	9,110	-	.5
1951	36,336	-	.3
1952	88,593	1.2	2.9
1953	105,784	1.6	1.8
1954	123,870	1.4	1.8
1955	108,791	1.2	2.4
1956	84,580	.8	1.0

Source: Dominion trade statistics.

Appendix

Production Controls and Marketing Organization

The newly organized Ontario Flue-Cured Growers' Marketing Board, composed of grower representatives, has recently replaced the Ontario Flue-Cured Tobacco Marketing Association, which was composed of equal number of representatives of the growers and buyers.

The new growers' board, which has been approved by the Ontario and Dominion Departments of Agriculture, is empowered to regulate the production and marketing of flue-cured tobacco in the Province of Ontario.

The plan provides for the organization of district groups and committees (14 districts in the flue-cured producing area of Ontario), with each district having one member on the marketing board. The plan provides for the registration of growers and enables them to establish a board which has authority to control production, negotiate guaranteed minimum prices, provide a system of orderly marketing and enforcement of production and marketing provisions under the plan.

The plan provides for the licensing of persons engaged in producing or marketing tobacco and for the refusal to grant a license if the applicant is not qualified by experience, financial responsibility, and equipment to engage properly in the business for which the application was made. The plan provides further for regulation of marketing and the assessment of license fees; and, among other things, the board can revoke the license of a grower or buyer and can prohibit the marketing of any class, variety, or grade of flue-cured tobacco in Ontario Province.

A negotiating committee for Ontario flue-cured tobacco is to be established for determining guaranteed minimum prices, conditions and agreements related to production and marketing and costs or expenses connected with production and marketing. It is to have 6 members, 3 appointed by the growers' marketing board and 3 appointed by the buyers. February 15 has been set as the deadline for setting the minimum average price for the 1950 crop. An arbitration board will make the final decision when differences arise between the growers' board and the buyers.

The Quebec Flue-Cured Tobacco Growers' Association operates the flue-cured programs in Quebec Province. There have been no controls on production in this

Province, and buyers still negotiate at the farm with each grower for the purchase of his leaf. However, the system could be changed here also, as there is legislation which would permit the establishment of a board similar to that in Ontario. The Quebec Flue-Cured Tobacco Growers' Association met in July 1957 to consider adoption of a marketing plan under authority of the Quebec Agricultural Marketing Board.

Burley (all of which is grown in Ontario Province) is controlled by an organization called the Ontario Burley Marketing Association. The acreage and price support programs are operated by this association, which is composed of representatives of both growers and buyers.

Local tobacco cooperative societies have considerable authority for the production and marketing of cigar and pipe tobacco in Quebec Province, and through recent joint efforts, now appear to have some overall authority in pricing and marketing of these two types of leaf.

Typical Flue-Cured Tobacco Farms in Southern Ontario

The typical flue-cured tobacco farm in southern Ontario contains about 100 acres of land, on which an average of 30 to 35 acres of tobacco are grown. Some farms have more or less than 100 acres of land, of course, and the acreage of tobacco varies considerably from farm to farm.

Much of the flue-cured is grown on shares, with the sharecropper, or grower, responsible for supplying all of the labor. This differs from the sharecropper system in the United States. The sharecropper in Canada is often a manager and usually handles the entire crop grown on that farm, including the responsibility of hiring any additional labor required. The farm owner furnishes the machinery, equipment, grease, oil, and fuel for equipment, and half of the fertilizer and curing fuel. The sharecropper usually pays for half of the fertilizer and curing fuel and all hired labor. The sharecropper gets one-half of the crop and frequently receives an additional bonus based on the amount of tobacco produced.

Investment and Facilities.--The Canadian flue-cured producer is a big operator, in terms of capital investment and amount of tobacco produced. The initial investment for purchasing a flue-cured tobacco farm is high - - usually ranging between $60,000 and $100,000, with an average of $85,000 for a typical 100-acre farm on which 30 to 35 acres are produced.

In addition to the house and a barn for livestock (frequently there is no livestock barn), there are usually 5 to 7 (kilns) curing barns, 1 (and sometimes 2) storage barns that are also used as packing and grading sheds, and 1 or 2 greenhouses, where the plants are started. (It is too cold to grow plants outside in plant beds.) Frequently, the farmer owns a boiler for steaming the beds, and practically all farmers own a tractor and complimentary equipment. On some farms where tobacco is grown by sharecroppers, there are 2 houses - - 1 for the owner and another for the sharecropper - - but there is only 1 house on most tobacco farms. On over half of the farms there is a pond, pump, and the necessary pipe for irrigating tobacco. During the early part of the 1957 growing season, there was too much rain, so little emphasis was placed on irrigation as it was generally not needed until after the middle of August.

Table 15.--Specific investment items on a typical southern Ontario flue-cured tobacco farm

Item	Amount
One greenhouse 1/	$ 2,200
One steam engine	2,000
One tractor and complimentary equipment	5,000
Six kilns (curing barns), 24' x 24', plus burners	$ 11,000 to 14,000
One pack and grading shed, 70' x 40'	3,000 to 5,000
One house	4,000 to 15,000
Land and other improvements	40,000 to 50,000

1/ Greenhouses are frequently about 100' x 27'.

Soil and Crop Rotation.--The main southern Ontario flue-cured area, which centers in Norfolk County, is relatively level, and the sandy soil is well drained and fairly uniform throughout the area. Organic content of the soil is maintained and carryover of disease kept to a minimum through a 2-year rotation of rye followed by tobacco. Rye is growing on the land approximately 19 months out of every 24-month period. The rye is planted in September or October as soon as tobacco is harvested. It is either harvested (and replanted) or disked in when ripe during the first summer following tobacco. In early spring of the second year following tobacco, the rye is plowed under. Sometimes fertilizer is applied when the rye is planted or when it is disked in or turned under.

Diseases and Pests.--The main Canadian flue-cured area is freer of diseases and pests than are most tobacco producing areas. However, cutworms and wireworms frequently cause serious damage unless appropriate control measures are taken. A few years ago, the damage by wireworms was so great that future production throughout southern Ontario was uncertain. Currently, various types of insecticides effectively control these pests. It is sprayed on the land after plowing and disked into the soil prior to transplanting the tobacco seedlings. The spray material is reported to cost about $4.00 to $5.00 per acre. Control of nematodes associated with corn, oats, and rye in the rotations is a problem. Also, damping-off in the greenhouses often causes considerable damage.

A physiological leaf spot, frequently called wet weather fleck, has caused limited damage in isolated areas for several years, but attacks were severe in parts of the main flue-cured area during 1957. The so-called leaf spot showed up after heavy rains when there were heavy fogs in the mornings of hot humid days. The leaf tissue, being thin and tender during such wet growing periods, appears to break down more easily from the blight. The exact cause is not known, but the Delhi experiment station personnel stated that it did not appear to be a mold or fungi. Parts of the affected leaves appear brownish. Later, sections of the leaves seem to break down or appear to be almost burned through. Canadian tobacco specialists report that it affected tobacco on from 300 to 400 farms in 1957. On the basis of the average acreage of tobacco grown per farm, a total of 9,000 to 12,000 acres could have been affected. Shortly after the disease struck, some growers primed apparently healthy leaves in affected fields. Some of these leaves, when cured, appeared to be almost normal, some

had brown or fleck spots, and some were of little or no value. Some fields were abandoned entirely after the first priming.

Irrigation.--The use of supplemental irrigation on flue-cured tobacco is well developed in Canada and its use is spreading rapidly. The water is usually obtained from ponds which are fed by underground springs, or gravel substrata.

The investment required to carry out such irrigation varies widely, depending largely on distance of the source of water from the fields to be irrigated. The investment for irrigating reportedly varies from $3,000 to $15,000 per farm, with the usual initial investment from $5,000 to $8,000.

Farmers say that supplemental irrigation is profitable, and many additional farmers plan to dig ponds. A few farmers, with whom this subject was discussed, indicated that they thought that through use of supplemental irrigation, average yields of 1,600 to 1,850 pounds of flue-cured per acre could be obtained, as compared to an average of about 1,200 to 1,400 pounds without it.

It is reported that in many years higher-quality leaf is produced when supplemental irrigation is used. No study on the differences in yield and quality between irrigated and nonirrigated tobacco in Canada is available. However, farmers plan to expand its use and average yields will be improved.

Seedling Production and Growing Period.--In Canada, because of the short growing season, the flue-cured seedlings are grown in greenhouses. The seeds are planted about April 5 if dry seeds are used or April 10 if sprouted seeds are used. The usual frost-free period at Delhi, the center of the main flue-cured area, begins about May 15 to 20 and lasts until September 8 to 15.

Harvesting.--Flue-cured tobacco is harvested largely by hired workers; however, on most farms the farm operator, or sharecropper, and his family work as part of the harvesting crew. In 1957, the harvest of flue-cured began about August 15 and was in full swing by August 25. Some of the leaf did not appear to be quite ripe in terms of U. S. standards. The harvesting was begun early in 1957 because of the physiological leaf spot and the fear of early frost. In 1957, there was ample harvest labor in the area. The supply of harvest labor in 1957 was slightly above normal and some persons looking for jobs were unable to get employment.

Harvest labor is discussed in considerable detail in a later paragraph, as this is a very large cost item in producing flue-cured in Canada.

Handling After Curing.--After the leaf is cured, it is moved to the packhouse and placed in bulks. The leaves, which remain tied to the sticks, are placed in large rectangular bulks on wooden pallets resting on the packhouse floor. The tobacco remains here until it is sorted for delivery to the buyer (or auction this year).

Grading and Baling.--Grading, tying, and baling were once done by the companies purchasing the leaf, but since 1947 these operations have been carried out on the farm. The tobacco companies have been paying the farmers 2 cents per pound to do that. The purchasing company has its own specifications as to how the leaf is to be sorted. Prior to 1957, each curing (cutters, leaf, lugs, etc.) was sorted into six grades - - No. 1 bright, No. 2 bright, red, green, non-descript green, and non-descript dark. The new Ontario Flue-Cured Tobacco Board has recently established new standard grades for all the member producers.

The farmer presses the leaves into bales weighing about 65 pounds, which are wrapped with paper and delivered in this form.

Marketing.--As indicated above, prior to 1957 there was no auction system for selling tobacco in Canada. Buyers visited the farms and purchased directly from farmers. While leaf was in the bulk, buyers estimated the percentage of

leaf in each grade and indicated the prices offered. An inspector from the Ontario Flue-Cured Marketing Association spot-graded the tobacco and determined the minimum prices to be paid to individual farmers.

Production and marketing of flue-cured in Ontario are now controlled by the Ontario Flue-Cured Tobacco Growers' Board, which operates under the Ontario Agricultural Products Marketing Act. A completely new plan for marketing flue-cured leaf in Ontario is being put into operation. Plans were made to sell the 1957 crop at three auction sales warehouses (Aylmer, Tillsonburg, and Delhi) using the Dutch Clock System. The plan calls for the selling of tobacco lots by auction. Each lot is to have a grade designation determined by a grader employed by the Ontario Flue-Cured Tobacco Growers' Board.

Hired Labor.--Frequently, in addition to the owner or sharecropper, 1 or 2 members of the operator's family (usually older boys and sometimes girls) work throughout the growing season. Often the older girls and housewife assist in the peak labor periods of transplanting and harvesting. On farms where the farmer and an older boy or girl from his family work throughout the season, there frequently are 1 or 2 regular hired workers employed from early spring until the crop is harvested and perhaps until it is graded for market.

Although practically all farmers use mechanical transplanters, about 5 or 6 workers are usually used for transplanting the crop. In addition to family labor, on many farms about 3 extra workers are usually hired for this operation.

During the growing period, 4 or 5 workers usually care for the crop. The usual wage rate for such workers is about $8.00 per day. One to three hired workers may be employed from about May 15 to September 15. Additional hired workers may be used in the latter part of the growing season when the crop is being suckered.

With this size of operation, one of the main cash cost items is hired labor for harvesting the crop. During the harvest period, which usually extends over a period of 5 or 6 weeks, a crew of 13 to 15 workers frequently is used. This may include 5 or 6 primers, 2 drivers, 3 or 4 leaf handlers, 2 tiers (usually women or older children), and 1 curer. On the average farm there are 2 to 5 persons from the grower's family, with the remainder of the crew made up of hired workers.

Wage rates for hired harvest workers follow:

Type of worker	Canadian dollars
Leaf handler and driver	10.00 per day
Primer	12.00 per day
Curer	1/ 100.00 per week

1/ In addition, the cost of transportation to and from the curers home town plus room and board are supplied by the grower.

After curing is completed, 2 or 3 workers are usually hired for perhaps 2 or 3 months for grading and tying. The wage rate for these workers is $8 - $10 without board and $6 - $8 with board furnished (per day).

The hired labor bill on a typical flue-cured farm where the owner or grower and 2 other family workers are used during peak labor requirement periods is about as follows:

	Canadian dollars
Preparing and transplanting.....:	300
Cultivation, topping and suckering:	700
Harvesting and curing.....:	2,500 to 4,500
Sorting and preparing for market..:	500 to 1,000
Total hired labor cost.....:	4,000 to 6,500

Mechanization of Harvest.--With the high cost of hired harvest labor, considerable thought has been given to ways of reducing the amount of labor required for this operation.

Many farms are equipped with portable elevators which convey the sticks of tobacco from the tiers to the person who is hanging it in the barn. A horizontal door opens along the entire side of the barn, thus facilitating the "housing" operation.

After World War II, some farmers attenpted to reduce the labor bill by using tobacco harvesting machines. These machines retail for about $2,000 to $3,000. Several were in use in 1954, but none were observed in 1957. Machinery dealers and tobacco farmers report that their use has declined in the past two years. There was more seasonal labor available in 1956 and 1957 than anticipated earlier so these machines were not in demand in these years.

Fertilizer.--About 1,200 pounds of fertilizer, often 2-12-10, are applied per acre of tobacco. More may be used by some farmers, but specialists at the Delhi Ontario Tobacco Experimental Station recommend strongly that the soil be checked before more than 1,100 pounds are applied, as their tests indicated that larger applications on most soils lower the quality of leaf obtained. If 1,200 pounds are applied to 32 acres of tobacco, the fertilizer bill would be approximately $850 for the tobacco crop. In addition to the fertilizer applied just prior to transplanting or as a side dressing, many farmers also apply 100 to 400 pounds per acre prior to seeding the cover crop of rye. If an average of 250 pounds were applied per acre on the cover crop, there would be an additional annual fertilizer cost of $270 per farm. It is probably reasonable to assume that the average fertilizer bill is about $1,100 per farm. Recently it has been recommended that 200 pounds of 0-12-20 be used as side dressing after setting.

Hail Insurance.--There is considerable risk of hail damage, especially in the northern portion of the main producing area of Ontario, and many farmers have hail insurance. The rates reported vary from $7 per $100 valuation of tobacco in the south to about $16 in certain local areas where hail is more frequent. Those farmers who carry hail insurance probably have a cash outlay of $1,000 to $2,000 for coverage of the tobacco crop, depending largely on location of the farm in reference to frequency of hail during the growing season.

Fire Insurance.--Most of the farmers carry fire insurance, which is also costly. The present rate most frequently reported is about $14 per $100 valuation of the tobacco. Most companies will not insure for more than 80 percent of the total value. On the typical farm, the fire insurance bill would probably be $200 to $225 on 80-percent coverage of the tobacco crop.

Curing Fuel.--Flue-curing of leaf in Canada is also expensive. More than two-thirds of the leaf is cured with oil, the remainder with coal, wood, or propane. The average barn (24' x 24') requires about 220 imperial gallons (about 265 U. S. gallons) of oil per curing. The price paid for curing oil in 1957 was about 19 to 21 Canadian cents per imperial gallon (equivalent to 16 to 17 cents per U. S. gallon). With an average of 2,000 pounds of leaf per

"curing" per barn, the cost of curing fuel is equivalent to about 2 cents per pound of cured leaf. The fuel cost for one run of a kiln was reported to range from $32.00 to $40.00. Some growers stated that $38.00 to $39.00 would be a fair estimate. The average cost per farm for curing the entire crop is reported as ranging mostly from $650.00 to $850.00.